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# SCIENCE.

FRIDAY, AUGUST 7, 1885.

## *THE INTERNATIONAL SANITARY CONFERENCE AT ROME.*

EPIDEMICS are not an unmixed evil. Indeed, it would perhaps not be going too far to say, that, on the whole, they are productive of more good than harm. They call attention to sanitary sins, and lead to sanitary reforms, which, in the absence of such a special stimulus, would often not be made. As a result of these reforms, the mortality from endemic diseases is, no doubt, often reduced to an extent which would quickly leave a balance on the credit side if a careful life-account were kept with cholera or yellow-fever in areas outside of their endemic prevalence. Thus, for example, the epidemic of cholera in Naples last year has been the cause of a general sanitary awakening in that city, which has long been noted as a hot-bed of typhoid-fever and other preventable filth-diseases. It has led to the speedy completion of the new water-works, by which the city secures an ample supply of pure water; and the municipal authorities are now earnestly inquiring as to the best system of sewerage, with a view to introducing it as soon as possible. By the way, the writer suggested to the syndic (mayor), that the 'separate system' of Col. Waring would be best adapted to the special conditions found at Naples; and this suggestion received the indorsement of the famous Dr. Koch, delegate from Germany to the International sanitary conference.

One of the most prominent indications of the general agitation of measures relating to sanitary reform, which in civilized countries follows an epidemic, is the disposition on the part of a country which has been recently punished, to call upon its neighbors to make common cause with it against the deadly pestilence. Thus the International sanitary con-

ference of Constantinople (1866), that of Vienna (1874), and that recently called by the Italian government, which met in Rome on the 20th of May of the present year, have all been the direct result of a recent epidemic of cholera; while the incentive which caused our own government to invite other nations to send delegates to the International sanitary conference held in Washington in 1881, was the epidemic of yellow-fever which devastated the Mississippi valley in 1878, and re-appeared in Memphis in 1879. The object in view on the part of the various governments which have taken the initiative in calling together sanitary experts for an international conference, has been to establish by treaty an international and uniform code of sanitary regulations. Unfortunately this object has not yet been attained. Whether the conference of Rome will be more fortunate in this respect than its predecessors have been, remains to be seen; as it has not yet finally adjourned, but is to meet again in the autumn. In the mean time, the delegates are to confer with their respective governments, and to present for their consideration the conclusions reached by a sub-commission composed of the technical delegates, which must serve as the basis of an international convention, if one is finally arranged. Even if this desirable result is not attained, the conference, like those which have preceded it, will be productive of great good, especially in the country where it was held. The interchange of opinions among leading sanitarians from various countries, the formulating of the knowledge which has been gained in the laboratory, or by the practical management of epidemics, the publication of explicit directions relating to quarantine, disinfection, municipal and maritime sanitary supervision, etc., cannot fail to be useful. And, even if no novel preventive measures have been brought forward, the reiteration, with the authority of such an assemblage of experts, of well-recognized san-

itary axioms, is of the greatest importance. For it is only under the stimulus of a recent epidemic, or the fear of one in the near future, that those who devote their lives to sanitary science can secure the attention of legislators, and of the public generally, to the truth of these axioms, and to the fact that cholera and yellow-fever are, to a great extent, preventable diseases.

Upon two things the sanitarians assembled at Rome, with two or three exceptions, were agreed: *First*, that cholera invades countries at a distance from that part of India where it exists as an endemic disease, not by *de novo* development, nor by any independent power of extension, but as a result of human intercourse. In other words, that new centres of infection are established by the transportation of germs from previously infected localities, either by fomites, or by means of the dejections of the sick. *Second*, that certain insanitary local conditions are essential for the development of an epidemic when cholera-germs are introduced; and that in a city which has a pure water-supply, and which is in a perfect sanitary condition, cholera cannot establish itself. So thoroughly are the English delegates to the sanitary conference convinced of the truth of this latter proposition, and so well are they satisfied with the present sanitary condition of their country, that they are willing to trust entirely to local sanitation, disinfection, and isolation of the sick, and insist that quarantine restrictions of any kind are unnecessary. In proof of this they point to the fact, that, for years, there has been unrestricted communication between the cholera-districts of India and England; and that, nevertheless, the disease has not been introduced into the latter country.

Other countries of Europe, however, are not willing to trust alone to local sanitation. They say, We admit that with plenty of money, a city may in time be made cholera-proof, especially if its inhabitants have been educated in ways of cleanliness, and if it is not located too near the tropics. But the cities and towns of southern Europe are not in this condition,

and it is hopeless to think of effecting such radical sanitary reforms on short notice. We therefore demand the establishment of barriers for the arrest of the infectious principle, or germ, which comes to us from your Indian possessions, and most frequently by way of the Red Sea and Suez Canal. In addition to this, we propose to guard our ports of entry, and to depend rather upon the exclusion of cholera-germs than upon the hopeless task of effecting such sanitary reforms as will make it safe to open the doors for their unrestricted introduction.

England replies, through her delegates to the conference at Rome, Guard your ports as closely as you please, but leave us free to pursue such methods as we have heretofore found efficient; and *don't interfere with our commerce* by detaining ships which are sailing directly from India to English ports by way of the Suez Canal.

As to the quarantine restrictions necessary, there is the widest range of opinion among the delegates to the conference at Rome. Some insist upon the old-fashioned arbitrary quarantine of detention for all ships and persons coming from infected ports, and differ only as to the time of detention. For these, from seven to ten days after arrival is the shortest time which can with safety be admitted. In this old quarantine party are the delegates from Turkey, Spain, Brazil, Greece, Roumania, and one or two other second or third rate powers. On the other hand, the delegates from France, Germany, Italy, Austria, Russia, the United States, and several other nations, advocated a more flexible system, which should take into account the sanitary condition of the vessel, the time she has been at sea since leaving an infected port, or since the last case of cholera occurred on board, etc. This system, commonly spoken of as the system of 'medical inspection,' includes the isolation of the sick; disinfection of soiled clothing, excreta, and of localities exposed to infection, including ships; and detention of the well for observation for a limited period — three to five days — if they have been recently exposed to infection.

The French delegates insisted upon dividing the passengers into isolated groups, so that each group might be released separately at the expiration of five days from the occurrence of the last case. Other delegates objected to any detention for a longer period than is necessary for the thorough disinfection of the vessel and the personal effects of the passengers. This modified system of quarantine, or 'medical inspection,' if well executed, and with the application of approved methods of disinfection, would doubtless afford the greatest possible security with the least possible interference with commerce, and injustice to individuals; whereas the old-fashioned quarantine is regarded by the more enlightened nations of Europe as untrustworthy and barbarous. Dr. Koch, the discoverer of the 'comma bacillus,' was in favor of the system of medical inspection as above defined.

It would be out of place in the present paper to give more in detail the conclusions reached by the conference with reference to sanitary regulations to be adopted at the port of departure, at sea, and at the port of arrival, the special measures recommended for the Red Sea and Suez Canal, the directions for disinfection, etc. But, as showing in outline the general sentiment of the delegates with reference to the most important preventive measures, we may quote the following proposition, which was introduced on the last day of the session by the delegate from the United States, and was adopted with but a single negative vote (Turkey).

"The measures recommended against cholera are, in general, applicable to yellow-fever, and to other diseases which prevail in epidemic form under the influence of bad sanitary conditions, and which are transmitted by human intercourse.

"The most effectual means for preventing the propagation of diseases of this class are: The sanitary improvement (*assainissement*) of seaport towns, and of vessels sailing from infected ports; isolation of the sick; and disinfection of infected or suspected articles and localities."

Baltimore, July 30. GEO. M. STERNBERG.

## LETTERS TO THE EDITOR.

\*.\* Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

### An abnormal Rudbeckia.

An interesting specimen of *Rudbeckia hirta*, L., was recently found among a patch of plants by my brother, Mr. Davis L. James. It differs from the normal type in such a manner as to deserve notice. It had the ordinary form, with the black conical centre. There were thirteen yellow rays. Two of these were of the usual shape, ligulate, with notches at the end; three were tubular, and with five lobes; and the remainder split open near the end, and the ray spread out. All the rays were fertile, although the generic character is 'rays neutral' (Gray, 'Manual,' p. 254). There can be no doubt as to the species, as it is a very common and familiar plant in this neighborhood. The sketch shows the appearance of the flower. It seems almost like an intermediate stage between the typical composite and a blossom with a number of large tubular flowers in a head. Can it be a reversion to some ancestral form?



Cincinnati, O.

JOSEPH F. JAMES.

### The ginkgo tree.

Some years ago I received fruit from the Ginkgo (*Salisburia adiantifolia*) from Tennessee, and since then I have heard of a number of cases. My impression is, that, in the latitude of southern Pennsylvania and Virginia, it is rather common for this exotic to fruit.

New Haven, Conn., July 28.

WM. H. BREWER.

### The swimming-habits of the sunfish.

The accompanying figure may at first puzzle the reader, but a little explanation will make it comprehensible. It is a view of the sunfish, or Mola, as seen from the back, the beholder looking down upon the animal from above as it swims in its own peculiar way. The individual from which this sketch was taken was caught in a trap-net at Quisset Harbor, Mass., and afterwards towed in a strong bag-net with a steam-launch from Quisset to Wood's Holl, where it was placed in one of the large pools constructed south of the laboratory for the Fish commission under the direction of Professor Baird. The fish measures about five feet in length and three in width: in fact, it may be considered adult. Since its removal to its new home, the animal seems quite contented, and has afforded an unusual opportunity to observe the manner in which its fins are used. The manner in which these organs are moved is so peculiar that it has been thought advisable to give a brief account of the means by which they are made effective as locomotive organs.

One does not need to watch this fish long in its